Percentages 2

1) During a marathon race an athlete loses 2 % of his mass.
At the end of the race his mass is 67.13 kg.

Calculate his mass before the race.

Answer   kg [3]

2) Shania invests \$750 at a rate of $2\frac{1}{2}$ % per year simple interest.

Calculate the **total** amount Shania has after 5 years.

Answer \$ [3]

3) Hans invests \$750 for 8 years at a rate of 2% per year simple interest.

Calculate the interest Hans receives.

Answer \$ [2]

Percentages 2

4) Aminata buys a business costing $23 000.

(a) She pays part of this cost with $12 000 of her own money.

Calculate what percentage of the $23 000 this is.

Answer(a) _____ % [1]

(b) Aminata's brother gives her 32% of the remaining $11 000.

Show that $7 480 is still needed to buy the business.

Answer(b)

[2]

(c) Aminata borrows the $7 480 at a rate of 3.5% per year **compound** interest.

Calculate how much money she owes at the end of 3 years.

Answer(c) $ _____ [3]

(d) In the first year Aminata spent $11 000 on salaries, equipment and expenses.
$\frac{2}{5}$ of this money was spent on salaries, 0.45 of this money was spent on equipment and the remainder was for expenses.

Calculate how much of the $11 000 was spent on

(i) salaries,

Answer(d)(i) $ _____ [1]

(ii) equipment,

Answer(d)(ii) $ _____ [1]

(iii) expenses.

Answer(d)(iii) $ _____ [1]

(e) The three items in **part (d)** are in the ratio   salaries : equipment : expenses = 0.4 : 0.45 : 0.15.

Write this ratio in its simplest form.

Answer(e) _____ : _____ : _____ [2]

5) Boris invests $280 for 2 years at a rate of 3% per year compound interest.

Calculate the interest Boris receives at the end of the 2 years.
Give your answer correct to 2 decimal places.

Answer $ [4]

6)

(a) In a sale, Jen buys a laptop for $351.55.
This price is 21% less than the price before the sale.

Calculate the price before the sale.

Answer(a) $ [3]

(b) Alex invests $4000 at a rate of 8% per year simple interest for 2 years.
Bob invests $4000 at a rate of 7.5% per year compound interest for 2 years.

Who receives more interest and by how much?

Answer(b) receives $ more interest. [6]

Percentages 2

7)

(a) In a café the price of an adult's meal is $24 and the price of a child's meal is $16.
A 12% service charge is added to the costs of the meals.

Calculate the **total** cost of meals for 2 adults and 3 children.

Answer(a) $ .... [3]

(b) On a Saturday night the adult meal price of $24 is increased by 20%.

Calculate the increased price of this meal.

Answer(b) $ .... [2]

(c) The price of a large cup of coffee increases from $3.00 to $3.42.

Calculate the percentage increase in the price.

Answer(c) .... % [3]

8) Acri invested $500 for 3 years at a rate of 2.8% per year compound interest.

Calculate the final amount he has after 3 years.

Answer $ .... [3]

Percentages 2

9) The Tiger Sky Tower in Singapore has a viewing capsule which holds 72 people.
This number is 75% of the population of Singapore when it was founded in 1819.
What was the population of Singapore in 1819?

Answer .... [2]

10) Maria pays $84 rent.
The rent is increased by 5%.

Calculate Maria's new rent.

Answer $ .... [2]